Canisteo permanent water outlet construction

Video and soundbite storyboard

Summary

The DNR is currently working with contractors to design, build, and implement a permanent water outlet structure to manage the Canisteo's water levels. Construction on the permanent water outlet structure is expected to begin on (DATE). Once completed, the permanent water outlet structure will flow into the Prairie River and provide year-round water level management, eliminating the need for seasonal pumping.

**Video purpose:**

The DNR has planned a comprehensive communication strategy that includes photos and videos capturing the construction phases of a permanent outlet at the Canisteo Mine Pit. To provide clear and accurate information to residents living in Bovey, Coleraine, and Taconite, we need a complete package of videos and soundbites ready to showcase the permanent water outlet and how it works leading up to the commencement of the construction work. The videos and soundbites will be utilized in social media, the DNR website, news releases, and media pitches.  
 **Video key messages:**

We have identified key topics for a one to two-minute video that can be used on social media and soundbites for media. We plan to combine the short videos into one longer video for the Canisteo webpage. The video will be informative and provide answers to the following:

* How has the Canisteo’s water levels been managed so far?
* Why is the DNR constructing a water outlet at the Canisteo?
* How does the outlet work; where will water be discharged?
* What do people need to know about recreation safety near the construction site?
* How is the outlet funded?
* Where will the outlet be located?
* What will contractors be working on this winter, and what is the expected construction timeline?

**Spokespeople/Subject Matter experts:**

* Erika Herr, Mine Permitting and Coordination Supervisor
  + Topics: project overview; construction timeline; safety messages
* Mike Liljegren, Lands and Minerals Assistant Director
  + How the outlet works, i.e., gravity flow; sand filtration; funding

**Production plan:**

* Ingrid Johnson, R2 IO, will go on-site with our spokesperson, Erika Herr, to grab some iPhone footage. Ingrid will share the footage with DNR videographer Yoshiji Katagiri.
* At the same time, Yoshiji will meet our other spokesperson, Mike Liljegren, on the Central Office 4th floor to get some video/soundbites of him.
* Then, Yoshiji will prepare the soundbites for the media room/news release and a 60-second video for the website/social media.

**Soundbites Interview Schedule**

1. **Erika Herr, Mine Permitting and Coordination Supervisor**

**Topics: project overview; construction timeline; safety messages**Location: Onsite at Canisteo, construction area. Date/time: Tentative: 12/23 or 12/30  
Videographer: Ingrid Johnson

Interview questions:

* How has the Canisteo’s water levels been managed so far?
* Why is the DNR constructing a water outlet at the Canisteo?
* What construction work is happening now, and what is the expected construction timeline?
* During and after construction, how will Canisteo water levels and temperatures be monitored?
* What do people need to know about access or recreation near the construction site?

Key messages:

* The Canisteo is a mine pit that has naturally filled with water over the years since mining has stopped and no company is responsible for dewatering the pit. Over time, the water levels in Canisteo rose due to groundwater and precipitation. In 2022, the Iron Range Resources and Rehabilitation Board funded a water pumping project managed by DNR hydrologists. Between 2022 and 2024, more than two billion gallons of water were pumped from Canisteo into Holman Lake and a wetland complex. Winter pumping has kept water levels below 1318 ft, helping the Bovey drain tile system divert groundwater away from residential areas. Seasonal pumping has controlled Canisteo’s water levels until a permanent water outlet is in place.
* Construction on a permanent water outlet is underway. This new outlet will help us manage the water level more effectively. Once it's up and running, it will direct water into the Prairie River, letting us maintain the water levels year-round without having to rely on seasonal pumping anymore.
* DNR hydrologists will monitor water levels at Canisteo Pit during the construction of the water outlet structure. After completing the permanent outlet, they will check levels downstream from Canisteo, West Hill, and Lind Pits.
* The flow route of the Canisteo outlet will be observed for blockages to prevent flooding at culverts or outlet sites. The DNR may set up a monitoring site for water flow at the Prairie River, where the Canisteo outlet discharges.
* Water temperatures at Canisteo will indicate when to bypass the sand filtration system. In winter, when temperatures are below 50 degrees, the filtration system will be avoided since immature zebra mussels, or veligers, are absent from cold waters, making winter filtration unnecessary to prevent the spread of invasive species downstream.
* DNR hydrologists will conduct biological sampling at Canisteo to ensure the filtration system filters zebra mussels effectively when water temperatures exceed 50 degrees. Sampling will also inform decisions about when to bypass the sand filtration system each winter when temperatures fall below this threshold.
* The DNR has no plans to open public access at the Canisteo. Ongoing dewatering and construction activities will limit recreation near the pit. As construction begins on the permanent water outlet, outdoor recreationists may encounter contractors using existing public roads or trails to access the Canisteo and surrounding areas near the construction site. The DNR strongly encourages everyone to pay close attention and take precautions around the construction area. Additionally, people should have permission from landowners before accessing any areas nearby.

1. **Mike Liljegren, Lands and Minerals Assistant Director**

**How the outlet works, i.e., gravity flow; sand filtration; legislative funding**Location: Central Office 4th Floor. Date/Time: Tentative: 12/23 or 12/30  
Videographer: Yoshiji Katagiri

Interview questions:

* How has the Canisteo’s water levels been managed so far?
* Why is the DNR constructing a water outlet at the Canisteo?
* How does the outlet work; where will water be discharged?
* How is the outlet funded?
* Where will the outlet be located?

Key messages:

* In 2023, the Minnesota legislature approved $8.875 million dollars for the construction of an outlet at the Canisteo. Now the DNR is working with contractors to design, build, and implement a permanent water outlet structure to manage the water levels at the Canisteo Mine Pit (Canisteo) in Itasca County.
* Once completed, the permanent water outlet structure will flow into the Prairie River and provide year-round water level management, eliminating the need for seasonal pumping.
* The outlet system operates using gravity. This means that water from the Canisteo will flow out of the pit naturally, without the need for any pumps. The movement of water is driven by the height difference between the point water flows from the Canisteo to a lower point, eventually reaching the Prairie River.
* The outflow system is equipped with a sand filtration mechanism. As water from the Canisteo moves through the pipeline, it passes through several layers of sand with varying grain sizes. This setup functions like a sieve, capturing invasive organisms such as zebra mussels. This automated process will help prevent aquatic invasive species from entering the Prairie River.

**Script and storyboard:**

| Erika Herr, Mine Permitting and Coordination Supervisor  Videographer: R2 IO, Ingrid Johnson | Topics: project overview; construction timeline; safety messages  Location: Onsite at Canisteo, construction area. Date/time: TBD |
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| **Main Footage (soundbites)** | **B-roll (secondary visual support)** |
| I’m Erika Herr, Mine Permitting Supervisor for the DNR’s Lands and Mineral Division.  We’re out today at the Canisteo Mine complex in Itasca County with an update on the water management project.  After two years of pumping out more than two billion gallons of water from the Canisteo, we're finally kicking off construction on a permanent water outlet. This new outlet will help us manage the water level more effectively. Once it's up and running, it will direct water into the Prairie River, letting us maintain the water levels year-round without having to rely on seasonal pumping anymore. It’s a big step forward! | Erika is in the foreground, and pipeline construction equipment is in the background. |
| Construction crews have been out here…Construction of the permanent outlet is expected to last… (what can we say about the expected timeline?) |  |
| DNR hydrologists will closely watch the water levels at Canisteo Pit while crews are constructing the new water outlet structure. Once the permanent outlet is in place, DNR hydrologists will also check water levels downstream at Canisteo, West Hill, and Lind Pits.  To keep things safe, DNR hydrologists monitor the flow route of the Canisteo outlet for any blockages, preventing possible flooding at culverts or outlet sites. Additionally, the DNR might set up a monitoring station for water flow at the Prairie River, where the Canisteo outlet discharges.  At Canisteo, they’ll track water temperatures to determine when to bypass the sand filtration system. During the winter months, when temperatures drop below 50 degrees, they’ll skip filtration since immature zebra mussels, known as veligers, are usually absent from cold waters. This means there’s no need for winter filtration to keep invasive species from spreading downstream.  DNR hydrologists will also carry out biological sampling at Canisteo to ensure that the filtration system effectively filters zebra mussels when water temperatures rise above 50 degrees. This sampling will help them decide when to bypass the sand filtration system each winter when temperatures fall below this important threshold. | Broll of the Canisteo and the construction site. |
| Right now, you can't access the water on the Canisteo. With the construction of the water outlet happening, it might get even trickier to reach some spots.  Safety is super important for both the workers on site and our local community, so it’s really best to steer clear of the construction area for now.  As they start building the permanent water outlet, you might see contractors using the public roads to get to the Canisteo and nearby areas. If you’re outdoors, just keep an eye out for construction equipment or crews in that area. And don’t forget—make sure to get permission from landowners if you’re thinking of exploring any nearby spots. | Broll of the construction zone. |

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| Mike Liljegren, Lands and Minerals Assistant Director  Videographer: Yoshiji Katagiri | Topics: How the outlet works, i.e., gravity flow; sand filtration; funding Location: Central Office 4th Floor. Date/Time: TBD |
| **Main Footage (soundbites)** | **B-roll (secondary visual support)** |
| I’m Mike Liljegren, Assistant Director for the DNR’s Lands and Mineral Division.  For the past two years, we’ve been using winter pumping as a short-term solution to control the water levels at the Canisteo. Now that we’ve secured funding from the legislature, we are breaking ground on a state-of-the-art permanent water outlet. This will allow us to manage Canisteo water levels year-round and prevent water from overtopping the pit without relying on pumping. | Close up on Mike; Central Office 4th floor windows behind him. |
| In 2023, the Minnesota legislature approved $8.875 million dollars for the construction of an outlet at the Canisteo. The outlet system is set up to work with gravity.  This means that water from the Canisteo will flow out of the pit all on its own, without needing any pumps. It’s all about the height difference; the water moves because there's a higher point where it starts and a lower point where it will flow into the Prairie River. | Diagrams/maps of the gravity pipeline project and gravity flow. |
| We teamed up with contractors to create an outflow system with a sand filtration mechanism. So, when water from the Canisteo flows through the pipeline, it goes through several layers of sand with different grain sizes.  This setup acts like a sieve, catching invasive organisms like zebra mussels along the way. It’s an automated process that will help stop aquatic invasive species from making their way into the Prairie River. | Broll of the sand filtration system. Is there a way to demonstrate how it works? Maybe another diagram. |